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Annals of Physical and Rehabilitation Medicine 57S (2014) e138–e144

Mental functions

Lecture

CO37-001-e

The assessment of patient with executive functions disorders on the basis of ICF classification

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Executive functions are an umbrella term for numerous cognitive processes, including working memory, task flexibility, time management, reasoning and problem solving, as well as planning and execution. The executive system is a theorized cognitive system in psychology that solves new problems in different setting, and that controls and manages other cognitive processes, such as attention, memory and language. In this complex cognitive model, the assessment of patient with executive functions disorders is large and comprehensive of mental functions level (both paper and pencil test and computerized tests), activity level (ecological tasks) and participation level (questionnaire as self- and other-reports, economic and legal consequences). A large space will be dedicated to the social cognition assessment (self-restraint, self-motivation, and self-regulation of emotions) and to awareness assessment. Finally the neuropsychological assessment should be the right basis for both the global rehabilitation project and the specific neuropsychological rehabilitation programs.

http://dx.doi.org/10.1016/j.rehab.2014.03.1570

CO42-005-e

Dissociations within declarative memory from patients with neurological lesions

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We will present several neuro-imaging and neuropsychological studies in human controls and patients with focal brain damage from various origins (epilepsy, post-encephalitic and post-anoxic lesions, predemential stages of Alzheimer disease…) which support a dissociation between "context-free" declarative memory – which refers to memory for facts and knowledge about objects and concepts or "semantic memory" – and "context-rich" memory – which requires cross domain associative learning and episodic encoding for personal experiences, events and places. These experiments provide evidence suggesting a hierarchical functional segregation within the medial-temporal lobe: whether the hippocampus is involved in context-rich memory, context-free memory seems depend on subhippocampal cortices. That approach may have implications for neuropsychological rehabilitation in amnestic patients.

http://dx.doi.org/10.1016/j.rehab.2014.03.1571

Oral communications

CO37-002-e

Effect of three different trainings on executive function and gait speed in MCI old adults

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Keywords: Aging; Training; Gait speed; MCI

Objective.– To assess the impact of three different trainings on executive function and gait speed in mild cognitive impairment (MCI) population.

Methods.– To examine this issue, the authors developed a simultaneous cognitive and aerobic training program comparing to an aerobic training, to a cognitive training, and to a control group without treatment. Experimental groups used a pre-test-training-post-test design (24 × 1 h of training). This forward-looking randomized study included 68 years old people with MCI. Participants completed executive control test on reasoning and working memory, to measure the cognitive impact of programs. They were also given a gait assessment in single task on gaitrite® to observe physical impact of program.

Results.– The trainees from simultaneous groups significantly improved gait speed and executive control performance. The cognitive training significantly improved in working memory score and the aerobic training significantly increased the reasoning performance.

Discussion.– The simultaneous group involved increasing gait speed and higher benefits on executive functions, confirming synergies between cognition and motricity.

http://dx.doi.org/10.1016/j.rehab.2014.03.1572